

Title: The dose and determinants of atropine requirements and outcomes in acute organophosphate and carbamate poisoning

Department: general medicine

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Objective: Our objective was to use RBC cholinesterase and POP scale at admission for prognosis. We also looked at atropine toxicity, rates of complications, and outcomes in organophosphorus and carbamate poisoning.

Methods:

It was prospective cohort study of 1 year duration including patients with organophosphorus and carbamate poisoning.

The data was collected by the principal investigator and followed up the patients daily till discharge. The baseline BChE and RBC AChE were collected at admission.

Data entry using epidata software and was analyzed by SPSS software.

Statistical method:

t-test was used for analysis of continuous data with Normal distribution and Mann-Whitney U test for data with non- Normal distribution. Chi-square test was performed for categorical variables. Differences were considered significant at p value of <0.05.

Results: Out of 60 patients in the study, 18(30%) patients developed intermediate syndrome. 33 required ICU admission and mechanical ventilation of which 14 required tracheostomy for prolonged ventilation. 3 patients died.

RBC cholinesterase levels and POP scale at admission had statistical significant relation with the initial and total atropine requirements. POP scale also predicted the need for intubation and ICU stay. Atropine toxicity was common 60% but mild.

We conclude that RBC cholinesterase and POP scale be used as new standards for assessment and guiding management of patients with organophosphorus and carbamate poisoning.